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UTAH NURSERY COMPANY



1912

Office 401 D. F. WALKER BLOCK, Salt Lake City, Utah

Location of Packing Grounds NINTH EAST AND TWELFTH SOUTH
STREETS. Take Ashton Avenue Cars.

NINETEENTH EDITION

CATALOGUE

OF

Fruit and Ornamental Trees
Small Fruits, Roses, Shrubs, Etc.

U T A H
NURSERY
COMPANY

SALT LAKE CITY:
GROCEER PRINTING CO., PRINTERS, ETC.

Terms of Sale

SHIPPING—Our shipping season in the Spring begins on wholesale orders about March 20th. Parties ordering goods should indicate whether they wish them sent by freight or express, also route. In the absence of these instructions, we forward them to the best of our judgment, but in no case will we assume responsibility after consignment to purchaser.

TERMS—Cash or security before shipment of goods, except with established firms, when, if unknown to us, satisfactory reference will be required before goods are forwarded. Orders to be sent C. O. D. should be accompanied by one-half cash.

CAUTION—We accept all orders upon condition that they shall be void, should any injury befall stock from frost, fire, hail, storms or other causes over which we have no control.

CLAIMS—For deduction will receive consideration only when made within six days after receipt of goods.

GUARANTEE OF GENUINENESS.

Our trees are all budded or grafted as far as possible from bearing trees, and every care and precaution is exercised to have them true to label; still with all our caution, mistakes may occur, but we hold ourselves in readiness, on proper proof, to replace all trees and other stock that may prove untrue to label, free of charge, but it is mutually agreed between ourselves and purchaser that in no case shall we be liable for further damages.

HINTS ON TRANSPLANTING, ETC.

We cannot attempt to give complete directions on all points connected with Tree Planting, but simply a few hints on the more important operations. Every man who purchases a bill of trees should put himself in possession of "The Fruit Garden," or some other treatise on tree culture, that will furnish him with full and reliable instructions on the routine of management. Transplanting is to be considered under the following heads:

1st. THE PREPARATION OF THE SOIL.—For fruit trees the soil should be dry, either natural or made so by thorough drainage, as they will not live or thrive on a soil constantly saturated with stagnant moisture. It should also be well prepared by twice plowing, at least, beforehand, using the subsoil plow after the common one at the second plowing. On new, fresh lands manuring will be unnecessary; but on lands exhausted by cropping, fertilizers must be applied, either by turning in heavy crops of clover, or well decomposed manure or compost. To ensure a good growth of fruit trees, land should be in as good condition as for a crop of wheat, corn or potatoes.

2d. THE PREPARATION OF THE TREES.—In regard to this important operation, there are more fatal errors committed than in any other. As a general thing, trees are planted in the ground precisely as they are sent from the Nursery. In removing a tree, no matter how carefully it may be done, a portion of the roots are broken and destroyed,

and consequently the balance that existed in the structure of the tree is deranged. This must be restored by a proper pruning, adapted to the size, form and condition of the tree, as follows:

Heeling in Trees.—On receipt of the trees a ditch should be opened in loose soil; cut bundles and put the trees in side by side and cover the roots with loose soil; be careful that it is well filtered among the roots to keep them moist.

Standard Orchard Trees.—These, as sent from Nursery, vary in height from two feet and upwards, according to age and variety. Also branched and without branches. The branches should all be cut back to within three or four buds of their base. This lessens the demands upon the root and enables the remaining buds to push with vigor. Cut off smoothly all bruised or broken roots up to the sound wood. In case of older trees of extra size, the pruning must be in proportion; as a general thing it will be safe to shorten all the previous year's shoots to three or four buds at their base, and where the branches are very numerous some may be cut out entirely.

Dwarf, or Pyramidal Trees, on the Quince Stock, if of two or three years' growth, with a number of side branches, will require to be pruned with a two-fold object in view, viz.: The growth of the tree and the desired form. The branches must be cut into the form of a pyramid by shortening the lower ones, say one-half, those above them shorter, and the upper ones around the leading shoots to within two or three buds of their base. The leader itself must be shortened back one-half or more. When trees have been dried or injured much by exposure, the pruning must be closer than if in good order.

Yearling Trees Intended for Pyramids.—Some of these may have a few side branches, the smallest of which should be cut clean away, reserving only the strongest and the best placed. In other respects they should be pruned as directed for trees of two years' growth. Those having no side branches should be cut back so far as to insure the production of a tier of branches within twelve inches of the ground. A strong yearling, four to six feet, may be cut back about half, and the weaker ones more than that. It is better to cut too low than not low enough, for if the first tier of branches be not low enough the pyramidal form cannot afterwards be perfected.

3d. PLANTING.—Dig holes in the first place large enough to admit the roots of the tree to spread out in their natural position; then, having the tree pruned as above directed, let one person hold it in an upright position, and the other shovel in the earth, carefully putting the finest and the best from the surface among the roots, filling every interstice, and bringing every root in contact with the soil. When the earth is nearly filled in, a few pails of water may be thrown on to settle and

wash in the earth around the roots; then, after the ground has settled, fill in the remainder and tread gently with foot. Guard against planting too shallow. The trees, after the ground settles, should stand in this respect about two inches deeper than they did in the nursery. Trees on dwarf stock should stand so that all the stock be under the ground, and no more. In very dry, gravelly ground the holes should be dug twice the usual size and depth, and filled in with good loamy soil.

4th. STAKING.—If trees are tall and much exposed to winds, a stake should be planted with the tree, to which it should be tied in such a manner as to avoid chafing. A piece of matting or cloth may be put between the tree and the stake.

5th. MULCHING.—When the tree is planted, throw around it as far as the roots extend, and a foot beyond, five or six inches deep, of rough manure or litter. This is particularly necessary in dry ground, and is highly advantageous everywhere, both in spring and fall planting. It prevents the ground from baking or cracking, and maintains an equal temperature about the roots. This does not apply to large plants, where constant cultivation is required.

Pruning.—The tops should be shortened in more or less, depending on size, variety, and condition of the trees. In commercial orchards one year old trees are cut down from 18 inches to 2 feet above ground, and all side limbs are cut to one or two buds; two year old trees with formed tops should be shortened in from 6 inches to 1 foot of main stem.

No summer pruning should be done the first year, strong growing side limbs on lower part of the tree can be shortened in from 6 inches to 1 foot from stem, so that the leaves left will shade the tree.

In heading peach trees it has been found a great benefit to cover the top cut with grafting wax, especially on large size stock.

6th. AFTER-CULTURE.—The grass should not be allowed to grow around young trees after being planted, as it stunts their growth. The ground should be kept clean and loose around them until, at least, they are of bearing size.

Treatment of Trees that Have Been Frozen in the Packages, or Received During Frosty Weather.—Place the packages, unopened, in a cellar or some such place, cool, but free from frost, until perfectly thawed, when they can be unpacked, and either planted or placed in a trench until convenient to plant. Treated thus, they will not be injured by the freezing. Trees procured in the fall for spring planting should be laid in trenches in a slanting position to avoid the winds; the situation should also be sheltered and the soil dry. A mulching on the roots and a few evergreen boughs over the top will afford good protection.

DISTANCE BETWEEN TREES IN PLANTATIONS.

Standard Apples, 20 to 30 feet apart each way.

Standard Pears and Cherries, 16 to 20 feet apart each way.

Standard Plums, Peaches, Apricots and Nectarines, 16 to 18 feet apart each way. The greater distance is better where land is not scarce.

Currants, Gooseberries and Raspberries, 4 to 5 feet apart.

Blackberries, 6 to 7 feet apart.

NUMBER OF TREES ON AN ACRE AT VARIOUS DISTANCES.

| | |
|-------------------------------|-------|
| At 4 feet apart each way..... | 2,729 |
| " 5 " " | 1,742 |
| " 6 " " | 1,200 |
| " 8 " " | 680 |
| " 10 " " | 430 |
| " 12 " " | 325 |
| " 15 " " | 200 |
| " 18 " " | 135 |
| " 20 " " | 110 |
| " 25 " " | 70 |
| " 30 " " | 50 |

The number of plants required for an acre, at any given distance apart, may be ascertained by dividing the number of square feet in an acre (43,560), by the number of square feet given to each plant, which is obtained by multiplying the distance between rows by the distance between the plants. Thus, strawberries planted three feet by one, gives each plant three square feet, or 14,520 plants to the acre.

SUGGESTIONS AND FORMULAS, TAKEN FROM BULLETIN NO. 12, ISSUED BY UTAH STATE BOARD OF HORTICULTURE. SUGGESTIONS.

Before spraying or applying any remedies herein suggested, know what you are spraying for, use the proper remedy, apply at the proper time and do the work thoroughly.

Get a good pump and apparatus and have them all ready for business when the time comes.

If you think your orchard is too small for a good spraying outfit, talk it over with your neighbor. Two or three small orchards can certainly afford a good pump.

If you don't get rid of the fruit pests, you will have to feed them.

The hearty co-operation of every person interested in the horticultural welfare of Utah is solicited in making the law and the rules and regulations of the State Board of Horticulture more effective.

If you are thinking of planting an orchard, don't plant too many varieties. Order your nursery stock early and insist on the best.

Don't take any chances on poor nursery stock; it is cheaper to burn it than to plant it.

Take care of the trees while they are young; they need it.

Cultivate the orchard, and give nature every chance to produce better fruit.

Utah is in line for a national and international reputation for her fruit. Help the good work along. Use your influence to get the old, neglected, worthless orchards in your neighborhood cleaned up. It will help you and help the state.

Much valuable information of special interest to fruit growers is published from time to time by the United States Department of Agriculture and the Utah Experimental Station. A request to the Department of Agriculture, Division of Publications, Washington, D. C., and to the Director of the Utah Experimental Station, Logan, will bring available publications.

FORMULAS.

The formulas prescribed and adopted by the board of horticulture are as follows:

PARIS GREEN.

Paris Green.....1 lb.
Water150 gal.

Place the poison in a fruit jar half full of water and shake until thoroughly wet, then add to tank of water and agitate thoroughly with a hose or agitator. This mixture must be constantly agitated while spraying to prevent settling. Where evening dews are frequent use one pound of lime to each pound of Paris Green to prevent burning.

WHITE ARSENIC.

White Arsenic1 lb.
Fresh Lime2 lb.
Water1 gal.

Add the arsenic and lime to one gallon of hot water and then boil for 30 minutes, stirring occasionally, and add water to make up for what boils away. This is for a stock solution.

Add 1 quart of this stock solution to 50 gallons of water, to which has been added $\frac{1}{2}$ pound of freshly slacked lime.

The following formula and method of preparing the spraying mixture with white arsenic is fully endorsed by this board:

White Arsenic1 lb.
Sal Soda (washing soda)4 lb.
Water2 gal.

Boil together until all is dissolved, and add water to replace what has boiled away.

Use 2 quarts of this stock solution and 2 pounds of freshly slacked lime to each 50 gallons of water.

Note.—Never use either of the above arsenical stock solutions without the addition of lime, otherwise the arsenic will burn the fruit and foliage.

ARSENATE OF LEAD.

Lead Arsenate6 lbs.

Water120 gal.

This mixture stays in suspension better than Paris Green and will adhere to the foliage longer. It is, however, more expensive and except for the late sprays it has little advantage over the Paris Green.

WARNING.

Fruit growers are cautioned to use great care in handling arsenical and other disinfectants. Properly handled, with due care and caution, there is no danger from their use. No bad results will follow the use of fruit which has been properly sprayed.

KEROSENE EMULSION.

Soap1 lb.

Kerosene2 gal.

Hot water1 gal.

Dissolve one pound of hard soap in one gallon of hot water; remove from fire and while still boiling, add two gallons of kerosene, stir violently or pump back and forth through a spray pump until the mixture takes on the appearance of whipped cream. Dilute with ten times as much water. Skimmed milk may be used as a substitute for the soap in making the emulsion, using one gallon of hot milk to two gallons of kerosene, stirring the same as when the soap is used; add water as above.

HYDROCYANIC ACID GAS.

For every 200 cubic feet of space in shed or tent (allowing for the space occupied by the trees or shrubs) take:

Cyanide of Potassium, C. P. 98 per cent....1 oz.

Sulphuric acid1 oz.

Water4 oz.

Directions: First place the earthen vessel in which the gas is to be generated in a convenient place in the shed, and then put in the water, pour the acid into the water, and finally add the cyanide of potassium by dropping it into the vessel from the end of a string suspended over a limb or twig, after the room is vacated by the operator; close the door and submit the trees to the fumes for about 30 minutes. Open the door and allow the gas to escape before attempting to remove the trees, as it is deadly to inhale.

CAUTION: Extreme care must be used in handling the gas, as it is most fatal to inhale. A single inhalation is death to everything that breathes. The separate ingredients are also poisons.

LIME-SULPHUR MIXTURE.

Sulphur15 lbs.

Fresh, unslaked lime30 lbs.

WaterAs directed

Directions.—Into a large vessel place 30 pounds of the best fresh, unslacked lime. Into another vessel place 15 pounds of Utah sulphur; pour over the sulphur one gallon or more of boiling water, stirring until all is thoroughly wet. This accomplished, pour six to ten gallons of boiling water over the lime in the vessel and immediately add the sulphur paste. Mix as thoroughly as possible and cover the vessel tightly to keep in all the heat possible; stir quickly every ten minutes to keep from burning and settling till the lime is thoroughly slaked. Then boil briskly. When the mixture is properly cooked it will be of a dark amber color. Add sufficient hot water to make 45 gallons, stir thoroughly, strain through a fine strainer and apply while quite warm to the dormant trees, during the winter or in the early spring.

Great care must be used to prevent lime burning. Use proportional amounts if made in smaller quantities.

Utah sulphur is recommended for the reason that it does not granulate as quickly as some others.

BORDEAUX MIXTURE.

For a stock solution dissolve any number of pounds of copper sulphate (blue vitrol) in as many gallons of water by suspending in a burlap sack so that the sulphate just touches the surface of the water. Keep the stock solution in a stoppered jar. Use an earthen or wooden vessel in the preparation of Bordeaux Mixture, as it will ruin a vessel of metal.

In some vessel slack slowly five pounds of fresh lime, using hot water, gradually adding water until a thin whitewash is formed. Take four gallons of the copper solution above and add to 25 or 30 gallons of water. To this solution add through a strainer the lime whitewash as prepared, adding sufficient water to make 40 or 45 gallons, stirring vigorously the while. Keep the mixture agitated while spraying.

COPPER SULFATE.

Copper Sulfate 4 lbs.
Water 45 gals.

This solution is used for winter spraying and is very effective as a fungicide. It must not, however, be applied while foliage is on the trees without the addition of lime. (See Bordeaux Mixture.)

TOBACCO WASH.

Tobacco stems or fresh tobacco dust..... 3 lbs.
Water 5 gals.
Steep together for two hours.

This solution is valuable in the treatment of soft-bodied plant lice and is easily prepared in small quantities. This wash may be applied with a brush or cloth or sprayed on the plants. It should come in con-

tact with the insects. Tobacco stems can be purchased from any cigar factory.

COPPER CARBONATE SOLUTION.

| | |
|------------------------|----------|
| Copper carbonate | 5 oz. |
| Ammonia | 3 pts. |
| Water | 45 gals. |

Directions: Make a paste of the copper carbonate with a little water, dilute the ammonia with three gallons of water, add the paste to the diluted ammonia and stir until dissolved. Add enough water to make 45 gallons. Allow it to settle and use only the clear blue liquid. This mixture loses its strength while standing; use it while fresh. It will not injure the tender foliage. This is especially valuable to spray any plant upon which the lime or Bordeaux mixture would do injury.

FOR MILDEWS ON GRAPES, GOOSEBERRIES, ETC.

POTASSIUM SULFIDE.

| | |
|-------------------------|---------|
| Potassium sulfide | 1 oz. |
| Water | 2 gals. |

Spray as soon as growth begins and repeat every ten days or two weeks, for six or seven times, or so long as necessary.

INSECT PESTS AND REMEDIES.

(By Prof. E. D. Ball.)

The Codling Moth.

This insect does more damage than all others with which the apple grower has to contend. The worms pass the winter in tough cocoons hidden beneath the rough bark of the trunk or larger limbs, in cracks or knotholes or under rubbish in the orchard. The moth is nearly the color of the apple bark and flies with a zigzag motion. It never flies to a light and is rarely seen. The moths hatch out a week or two after blossoms fall and lay their eggs on the upper surface of the leaves, close to an apple or on the apple itself where the fuzz has been rubbed off. The second brood of eggs is nearly all laid on the apples. The great majority of the little worms of the first brood go in at the calyx, while of the second brood about half go in at the side of the apples. The worms remain in the apples about twenty days and then crawl down the tree and hide in the bark. It takes about fifty days for one complete generation, and there are but two broods in a season in most sections of Utah. The worms of the second generation remain in the cocoons over winter.

Remedies: Spray with Paris green or lime-arsenic as soon after the blossoms fall as possible. Repeat in 10 or 14 days. If the orchard has

been badly infested or is within a quarter of a mile of other infested ones from which moths may fly in, spray three times for the second brood.

Never spray the tree when in bloom. The first two sprays should be thrown from above down and from the sides in, so as to force the poison into the calyx cups. For these sprays use a coarse fan-shaped spray that will carry six feet before it forms a mist. The two sprays should be continued until every flower has been thoroughly soaked and the trees are dripping heavily. For the later sprays use a finer, mist-like spray and stop as soon as the trees begin to drip.

Put bands on the trees a month after blossoms and remove every ten days and destroy all larvae until the 20th of August, then leave on until picking time. Scraping the bark in the spring, screening the fruit house and picking off all wormy apples about two weeks after the first worms come under bands will also aid in keeping them down.

Tent Caterpillar.

This insect has stripped the fruit and shade trees in a number of towns in the state. It is easy to control. The eggs may be found in creamy or waxy rings around the small twigs during the winter time. These hatch with the appearance of the first leaves, and the colony of little caterpillars spin a web and eat the leaves, migrating from branch to branch, and when larger resting in masses on the trunk without a web. When full grown they come down and spin a cocoon and soon come out a yellow-brown moth.

Remedies: Spray with Paris green, lead arsenate or lime-arsenic as soon as the leaves have opened out and before the blossoms appear, then again as soon as the blossoms fall. Use mist spray. With a few trees in a town lot, the easiest way is to cut off the egg rings and burn them. To keep them from climbing up a tree, take a roll of cotton batting, unroll and put once around the tree, then tie in the middle and pull the top down over bottom like an umbrella.

Pear and Cherry Slug.

A dark slimy green larvae with a big head which feed on the leaves, turning them brown in spots. There are two broods in a year, one appearing in June or early in July, the other in August. The second brood usually does the most damage and, where numerous enough, will strip an entire tree and kill it. The larvae grow to be about a half inch long and they go into the ground and pupiate, coming out a black fly-like insect.

Remedies: Spray with Paris green or lime arsenic as soon as damage is noticed. When fruit is nearly ripe, the trees may be dusted with white hellebore or dry air slacked lime instead.

Peach Twig Borer.

A dark brown worm that bores into the buds and young shoots early in the spring, causing them to wilt. It passes the winter in crevices in bark and little burrows in the crotches. There are two broods; the second one bores into the fruit as well as into the young shoots.

Remedies: Spraying in spring just before buds start with lime sulphur mixture, or kerosene emulsion, thoroughly soaking the bark on trunks and limbs, is the best remedy. Prune off all affected twigs and burn them. Picking off and destroying the wormy fruit will lessen their number.

Peach Tree Borer.

A wasp-like moth which flies in the daytime in early summer and lays eggs on the tree trunks close to the ground. The young borer hatches in midsummer and works down into the ground and bores around the tree just beneath the bark until fall, and again in the spring until it becomes full grown. They can be easily detected by the gummy mass which exudes.

Remedies: Scrape the dirt away from the tree in fall and spring and cut out all borers found. They may be kept out by wrapping the tree trunk with building paper early in May. Dig the dirt away for three or four inches, wrap the tree with paper, tying the top lightly, and hilling up around the bottom.

The Flat-Headed Borer.

A pale greenish-white grub with a large head, attacking the apple and sometimes other trees, especially young and sickly ones, which it often girdles and kills.

Remedies: Same as for peach tree borer.

Woolly Aphis.

Appears on the trunk and branches of the apple tree, as white woolly patches which show a red color when crushed. Later in the season they migrate to the smaller limbs and twigs. Another form occurs below the ground where they form knot-like swellings along the roots.

Remedies: Spraying with lime-sulphur mixture in winter, or kerosene emulsion in summer, will hold them in check. Pure kerosene or a strong emulsion driven with force against the patches in early summer will tend to keep them down. For the root infesting form scraping away the dirt and scattering several pounds of tobacco stems to the tree has been recommended.

Red Spider or Brown Mite.

Minute reddish or greenish mites working on leaves and stems of fruit and shade trees and sucking their juices so that they turn yellow and die. They can usually be detected by the sickly yellowish color of

the plant along with a slight webbing or the presence of reddish mites. The Brown Mite lays bright red eggs in the fall, usually in clusters on the main trunk or branches, and, when numerous, easily seen at a distance.

Remedies.—The lime-sulphur spray in the spring just before the buds start is the easiest means of destroying the eggs. In summer, spray with a strong kerosene emulsion or whale oil soap, one pound to five or six gallons of hot water.

Grasshoppers.

When adjoining crops are harvested or when waste lands or pastures dry up, grasshoppers are apt to come into orchards and vineyards and do considerable damage to the fruit and even to the trees or vines. Young orchards are often stripped of leaves and bark in a few days in this way. They are particularly fond of grapes.

Remedies: The best way is to keep them out by catching them from other crops or waste land with the hopper catcher before they start to migrate. Sowing a mixture of one pound of arsenic, 10 pounds bran or shorts and 3 pounds sugar along the edges will kill them off in large numbers.

Once in the orchard or vineyard they may be poisoned by using the same mixture either scattered or in little piles. They can be driven out by moving them over one row at a time in the direction the wind is blowing. They can be caught best in the early morning or late evening.

Apple Aphis.

The shiny black eggs of this pest may be found during the winter on the terminal twigs and strong growing shoots. They are usually placed around the buds and in the crotches. The lice hatch about the time the leaves start and soon curl them up, and, if numerous, stunt the growth of the tree.

Remedies: Winter spray with the lime-sulphur mixture will destroy the eggs. When only a few trees are affected, a strong kerosene emulsion may be used or the eggs may be crushed by the hand. Just after the eggs hatch an ordinary kerosene emulsion will kill the young. Later they curl the leaves so that a spray will not reach them.

Plum Aphis.

Just as soon as the lice appear and before they have curled the leaves around them, spray with kerosene emulsion or whale oil soap, using a coarse spray and with considerable force.

Cabbage Aphis.

The lice often gather in immense numbers on the under side of the leaves late in the season. Use same remedies as for other lice, except

that the spray nozzle must be set at an angle so as to reach under the plant and spray up against the lice.

Cabbage Worms.

Green worms that eat the leaves and finally spoil the head of the cabbage.

Remedies: Spray early in season before the head is formed with Paris green or lime-arsenic. This may be continued up to within two weeks of picking time with safety, provided no heads that have holes in them are used. The poison may be dusted on with flour if preferred.

Tomato Worm.

A large green worm with a curved horn behind. Eats up leaves and injures the fruit.

Remedies: Hand picking by going over the field every day or so with a flat paddle, knocking them off, and crushing is the best method. They may be killed by spraying the vines with poison.

Strawberry Leaf Roller.

A small rusty brown moth with white marks. Appears in the patch in the early summer and a little later a greenish worm is found rolling the leaves and destroying them. Another brood comes on later in the season.

Remedies: Spray soon after the moths have become abundant in the patch with Paris green or lime-arsenic, and again about the time the berries form. Mow the vines as soon as the crop is off and sprinkle with straw and burn as soon as dry.

San Jose Scale.

This is the most pernicious of all the scale family. It is a sap sucker and cannot be poisoned, but must be killed by contact. It attaches itself to the bark of the tree, giving it a dirty, scurfy appearance. In its worst stage it incrusts the twigs and branches, the tiny scales often overlapping each other. The insect punctures the bark, poisoning and discoloring the tender cambium or under bark, as though it had been punctured with fine needles dipped in analine dye.

Remedies: In the summer time, while the young are hatching, and before they become attached and have developed their impenetrable shell or scale, they may be combatted successfully with kerosene emulsion applied in double strength. The most thorough, practical and effective remedy for all scale insects is the lime-sulphur solution. If this solution is properly made and applied as directed, its caustic properties will kill all scale and other insects which it may come in contact with, also the eggs of red spider and every species of aphides. The hydrocyanic acid gas is also a very effective remedy for the San Jose scale.

SELECT APPLES.

Our principal stock of apples consists of the following varieties, which have been well proved and can be recommended as the best now in cultivation for the inter-mountain climate.

SUMMER APPLES.

Carolina June (Red June).—Small or medium; deep red; good; productive; hardy; a free grower; very popular. August.

Early Harvest.—Medium to large size; pale yellow; tender, with a mild, fine flavor. Tree a moderate, erect grower, and a good bearer; a beautiful and excellent variety for both orchard and garden, being one of the first to ripen. August.

Red Astrachan.—Large, roundish, nearly covered with deep crimson, overspread with a thick bloom; very handsome; juicy, good, though rather acid. The tree is very hardy, a free grower, with large foliage, and a good bearer; highly esteemed on account of its fine appearance, earliness and hardness. August.

Shell Apple.—Very large, beautiful golden color when fully ripe; nearly round; very high flavored; skin thin; one of the best cooking and eating apples of its season. Should be in every orchard. Highly esteemed in West Virginia, its native State. Ripens in midsummer and continues a long time; very valuable.

Sweet Bough (Large Yellow Bough).—Large, oblong, skin smooth, pale greenish yellow; very tender, crisp; rich, sweet, aromatic and fine. Tree a moderate grower, bears abundantly, and forms a round head. One of the best. August to September.

Yellow Transparent.—Mr. Downing's description: "A Russian variety, which promises to be valuable for a cold climate, as an early fruit of good quality, ripening before the Tetofsky, with more tender and delicate flesh, but does not continue long in use. It is said that the tree, so far, has proved to be very hardy, moderately vigorous, upright, and an early and good bearer annually. Fruit medium, roundish, oblate, slightly conical; skin pale yellow when fully matured; flesh white, half fine, tender, juicy, sprightly, sub-acid; quality good to very good. Season, early in August and a week or two before Tetofsky."

AUTUMN APPLES.

Alexander.—Origin Russian. A very large and beautiful deep red or crimson apple, of medium quality. Tree very hardy, a moderate grower and rather a light bearer. September and October.

Chenango Strawberry (Sherwood's Favorite.)—Large, roundish, bright red and yellow, very beautiful in appearance, and a pleasant apple. Tree a rapid, handsome, upright grower, and a good and early bearer. September and October.

Duchess of Oldenburg—A large, beautiful Russian apple; roundish; streaked red and yellow; tender, juicy and pleasant. A kitchen apple of best quality, and esteemed by many for the dessert. Tree a vigorous, fine grower, and a young and abundant bearer. September. Succeeds well in the Northwest, where most varieties fail.

Gravenstein.—A very large, striped, roundish apple, of the first quality. Tree remarkably rapid, vigorous and erect in growth and very productive. One of the finest fall apples. September to October.

Maiden's Blush.—Large, flat; pale yellow with a red cheek; beautiful, tender and pleasant, but not high flavored. Tree an erect, free grower and a good bearer. A valuable market apple. September and October.

Potomac.—A valuable acquisition. A new and handsome variety originated in the Shenandoah Valley, Vt., in 1898. Regarded by the Horticultural Department at Washington, D. C., as one of, if not the finest, late fall variety yet introduced.

WINTER APPLES.

Arkansas Black.—Large, skin black, dotted with whitish specks; flesh yellow, very juicy and delicious flavor; one of the best cooking apples.

Baldwin.—Large, bright red, crisp, juicy and rich. Tree vigorous, upright and productive. In New England, New York, Ontario and Michigan, this is one of the most popular and profitable sorts for either table or market. December to March.

Ben Davis (New York Pippin, Kentucky Streak, etc.)—A large, handsome striped apple of good quality. Tree very hardy, vigorous and productive; a late keeper; highly esteemed in the West and Southwest.

Bismarck.—Originated in New Zealand; tree short, stocky growth, with thick, healthy foliage, hardy and productive; is doing well in nearly all places. Fruit, large, handsome, yellow, shaded and covered with red; tender, sub-acid, quality not best; good for both dessert and cooking. Its most remarkable characteristic is its early fruiting habit; one-year grafts have produced several fine specimens and two-year-old trees seldom fail to produce fruit. Trees on dwarf stocks grown in pots or tubs make beautiful decorative specimens. Two-year single-stem trees about 18 inches high produce fine specimens. Late fall and early winter.

Esopus Spitzenberg.—Large, deep red with grey spots, and delicately coated with bloom; flesh yellow, crisp, rich and excellent. Tree rather a feeble, slow grower and moderate bearer; esteemed as one of the very best. November to April.

Five Square.—This is particularly a very remarkable apple, its name having originated from its peculiar shape, each apple being distinctly in a "five square" shape, and is very attractive on this account. Apple above average in size; color about the same as Rhode Island Greening; highly flavored and very juicy; a delicious, hardy and very heavy annual bearer; valuable. November to March.

Gano.—Origin Platte County, Mo. Tree spreading in orchard, vigorous, very hardy, having stood 32 degrees below zero without injury. An early, annual and prolific bearer. Fruit large, bright red on yellow ground, smooth, regular. In a letter to W. G. Gano, under date of December 29, 1883, Charles Downing says: "It is a handsome, well shaped apple of very good quality. Flesh white, fine grained, tender, mild, pleasant, sub-acid." Its perfect form, brilliant color, hardiness and splendid keeping qualities are just what the market demands. Season February to March.

Grimes' Golden (Grimes' Golden Pippin).—Medium to large size; skin golden yellow, sprinkled with grey dots; flesh crisp, tender, juicy, sprightly; very good to best. Tree hardy, vigorous, productive; originally from Virginia; grown in Southern Ohio. January to April.

Jonathan.—Medium size; red and yellow; flesh tender, juicy and rich; a moderate grower; shoots light-colored, slender and spreading; very productive. One of the best varieties either for table or market. November to March.

Lawver.—Tree vigorous; spreading; an early annual bearer. A beautiful fruit and a valuable apple for a large section of the country. Flesh whitish yellow, juicy, mild, sub-acid, and slightly aromatic. January to May.

Mammoth Blacktwig.—A popular apple from Arkansas. Tree upright, strong grower, good bearer and holds its fruit well; one-fourth larger than Winesap and equal in flavor and keeping qualities.

McIntosh Red.—Originated in Ontario some twenty years since, but is not widely known. Tree very hardy, long-lived, vigorous, good annual bearer of fair, handsome fruit of excellent quality, for home or market use. Fruit above medium, roundish, oblate; skin whitish yellow, very nearly covered with dark rich red or crimson, almost purplish in the sun. Flesh white, fine, very tender, juicy, mild, sub-acid, very promising. November to February.

Missouri Pippin.—Medium to large; pale whitish yellow, shaded with light and dark red, often quite dark in the sun; flesh whitish, a little coarse, crisp, moderately juicy, sub-acid. January to April.

Northern Spy.—Large, striped and quite covered on the sunny side with dark crimson and delicately coated with bloom. Flesh juicy, rich, highly aromatic, retaining its freshness of appearance and flavor till July. The tree is a remarkably rapid, erect grower, and a great bearer. Like all trees of the same habit, it requires good culture and occasional thinning out of the branches, to admit the sun and air fully to the fruit. Both leaf and blossom buds open a week later than other varieties. One of the finest late keeping apples.

Northwestern Greening.—Large; smooth, greenish yellow; flesh fine grained, firm and juicy; good quality; extremely hardy and a strong, handsome grower. December to April.

Pewaukee.—Origin, Pewaukee, Wis. Raised from the seed of Oldenburg. Fruit medium to large, roundish, oblate; skin bright yellow, striped and splashed with dark red; flesh white, tender, juicy, sub-acid. Esteemed especially for cold climates on account of its hardiness. Tree vigorous. January to May.

Rawles' Genet (Rawles' Janet, Never Fail, etc.)—Medium to large size; yellow, striped with red; crisp, juicy, rich; a free grower; prolific bearer. One of the most popular winter apples in the South and Southwest.

Rhode Island Greening.—Everywhere well-known and popular; tree spreading and vigorous; always more or less crooked in the nursery; a great and constant bearer in nearly all soils and situations; fruit rather acid, but excellent for dessert and cooking. Towards the South it ripens in the fall, but in the North keeps well until March or April.

Rome Beauty.—Large; yellow and bright red; handsome; medium quality; a moderate grower; good bearer. December to May.

Stayman Winesap.—The alternating stripes of two shades of red, which entirely cover it, give it a bright and attractive appearance, while its quality is of the best. The tree is quite vigorous and strictly Winesap in habit, readily adapting itself to different soils and situations; bears young and abundantly. This is a select and valuable variety for either market or home use.

Salome.—Long keeper, annual bearer, medium and uniform size; good quality; dark red.

Talman's Sweet.—Medium size; pale, whitish yellow, slightly tinged with red; flesh firm, rich and very sweet; excellent for cooking. Tree a free grower, upright and very productive. November to April.

Twenty-Ounce.—A very large, showy, striped apple of fair quality. Tree a free, spreading grower and fine bearer; excellent for baking and of pleasant flavor, though not rich; very popular in the markets. October to January.

Wagener.—Medium to large size; deep red in the sun; flesh firm, sub-acid and excellent. Tree a vigorous, handsome, upright grower, and very productive; an excellent variety, introduced from Penn Yan, Yates County, N. Y. December to May.

Walbridge (Edgar Red Streak).—Origin Edgar County, Illinois. Medium size, oblate, regular; skin pale yellow, shaded with red; flesh crisp, tender, juicy. Esteemed, especially in cold climates, for its hardiness and productiveness; a late keeper. Tree very vigorous. January to May.

Wealthy.—Originated near St. Paul, Minn. Fruit medium, roundish; skin smooth, oily, mostly covered with dark red; flesh white, fine, juicy, vinous, sub-acid, very good. Tree very hardy, a free grower and productive. An acquisition of much value on account of its great hardiness and good quality. December to February.

White Winter Pearmain.—Large, roundish, oblong, conic; pale yellow; extra high flavor; one of the best. December to February.

Wine Sap.—Large; roundish; deep red; medium quality; keeps well. Tree a moderate grower and good bearer; succeeds well in the West and is there valuable and popular. December to May.

Winter Banana.—This valuable new variety was originated on the farm of D. M. Flory, Cass County, Indiana. Fruit large, fine grained, a beautiful golden yellow shaded with bright red, unusually handsome. Flesh of golden yellow, very large and highly perfumed, and considered the finest flavored apple grown, an excellent table variety. Tree hardy. An early and prolific bearer.

Wolf River.—A new, large, handsome apple; hardy, vigorous and fairly productive; greenish yellow, shaded with light and dark red; flesh rather coarse, juicy, pleasant, with a peculiar, spicy flavor. November.

Yellow Bellflower.—Large; yellow, with a tinge of red on the sunny side; flesh crisp, juicy, with a sprightly, aromatic flavor; a beautiful and excellent fruit. Valuable for baking. The tree is a free grower and good bearer. November to April.

York Imperial (Johnson's Fine Winter).—Medium to large; yellow, shaded red; firm, juicy, sub-acid. An excellent shipping apple.

CRAB APPLES.

For Ornament or Preserving.

Hyslop's.—Almost as large as the Early Strawberry apple; deep crimson; very popular at the West on account of its large size, beauty and hardiness; late. Tree remarkably vigorous.

Transcendent.—A beautiful variety of the Siberian Crab; red and yellow. Tree a remarkably strong grower.

Whitney.—Large, averaging one and a half to two inches in diameter; skin smooth, glossy, green, striped, splashed with carmine; flesh firm, juicy, and flavor very pleasant; ripe latter part of August. Tree a great bearer and very hardy; a vigorous, handsome grower, with dark green, glossy foliage.

SELECT PEARS.

The following list includes most of those which have been well tested and proved valuable.

Those designated by a * are of American origin. A special list of those which we find particularly well suited to the Quince stock will be found at the end of the general list.

Gathering Pears.—One of the most important points in the management of pears is to gather them at the proper time.

Summer Pears should be gathered at least ten days before they are ripe, and Autumn Pears at least a fortnight. Winter varieties, if they will hang so long, may be left until the leaves begin to fall.

Thin the Fruit.—We cannot urge too strongly the following suggestion: When pear trees are heavily laden the fruit should be thinned when about one-third grown, else the fruit will be poor and the trees injured.

SUMMER PEARS.

Bartlett.—One of the most popular pears; large, buttery and melting, with a rich, musky flavor. A vigorous, erect grower; bears young and abundantly. Middle to last of September.

Lawson (Comet).—Large; a good shipper; of brilliant crimson color on yellow ground. July and August.

SELECT AUTUMN PEARS.

Clapp's Favorite.—Large; yellow shaded with red; juicy, melting, perfumed; a great bearer. August and September.

Duchesse d'Angouleme.—One of the largest of all our good pears. Succeeds well on the pear, but it attains its highest perfection on the quince; as a dwarf it is one of the most profitable market pears. October and November.

Flemish Beauty.—A rare, beautiful, melting, sweet pear. Tree very hardy, vigorous and fruitful; succeeds well in most parts of the country. September and October.

***Howell.**—One of the finest American pears; large, handsome, sweet, melting. Tree very vigorous, hardy and productive. September and October.

Improved Bartlett.—It is probably related to the Bartlett, but in some respects superior to this most valuable pear, being a long keeper, and particularly valuable for the reason that it ripens just after the Bartlett, and a much better shipper; in fact, reliable growers inform us that it has no equal in the latter respect. For canning it is unsurpassed; remains firm in the can; color almost white, and quality better than Bartlett. Fruit larger than Bartlett, much more highly colored, surface a little more uneven; hangs well to the tree.

***Kieffer (Kieffer's Hybrid).**—Said to have been raised from seed of the Chinese Sand Pear, accidentally crossed with Bartlett or some other kind. Large; skin rich golden yellow, sprinkled thickly with small dots and often tinted with red on one side; flesh slightly coarse, juicy, melting, with a pronounced quince flavor. Tree very vigorous and an early and great yielder. October and November.

Louise Bonne de Jersey.—A large, beautiful, first rate pear; yellow, with a dark red cheek; melting, vinous, buttery and rich. Tree a vigorous, erect grower and most abundant bearer; best on the quince. September and October.

***Rossney.**—A chance seedling grown near Salt Lake City, Utah. Ripens about two weeks after Bartlett, averages larger, excellent keeper and shipper, uniform size, shape and color, one of the handsomest; creamy skin with crimson blush; flesh melting, juicy, sweet and tender, of superior flavor. A vigorous grower, hardy both in wood and fruit bud, and very productive. Combines excellent quality with large size, fine form and superior shipping qualities. Luther Burbank, the most noted horticulturist of the age, says: "The samples of Rossney Pear arrived in due season. The large size, handsome form, and creamy yellow skin with crimson blush gives the fruit a tempting appearance; and the tender creamy flesh, of just the right texture, with no hard spots and an unusually small core, with its superior flavor, makes it about the best pear so far seen. If the tree is vigorous, healthy and productive, would prefer it to any other, even the standards, Bartlett or Seckel."

Seckel.—A most delicious little pear, unsurpassed in flavor; small, yellowish brown with red cheeks; rich, spicy, sweet. September.

SELECT AUTUMN AND EARLY WINTER PEARS.

Anjou (Beurre d'Anjou).—A large, handsome pear, buttery and melting, with sprightly, vinous flavor; keeps into mid-winter. Tree a vigorous grower and good bearer. We have no hesitation in pronouncing it to be the most valuable pear in the catalogue. Does equally well as a standard or a dwarf. Keeps until the winter holidays, when it commands very high prices in the market.

SELECT LATE WINTER PEARS.

Beurre Easter.—A large, roundish, oval fruit; yellow, with a red cheek; melting and rich. Tree a moderate grower and most abundant bearer; best on the quince; keeps all winter.

Lawrence.—Medium, pale, lemon yellow with brown dots; sweet, juicy, good; tree a vigorous grower. November and December.

P. Barry.—This is the third seedling of acknowledged great merit sent out by the late Mr. Fox. Thorough tests have proved it to be a free and vigorous grower, an early and prolific bearer, and its keeping points, its size and richness of flavor, coupled with its time of ripening, to be the most valuable addition to our shipping and late keeping winter pears. The fruit is large to very large, elongated pyriform; skin deep yellow, nearly covered with a rich golden russett. Flesh whitish, fine, juicy, buttery, melting, rich and slightly vinous. January to March.

Winter Nelis.—One of the best early winter pears; medium size; dull russet; melting, juicy, buttery, and of the highest flavor. December to January.

CHERRIES.

The Cherry succeeds well on dry soils and is susceptible of being trained in any form that taste or circumstances may require.

For orchards, where there is ample room for large trees, and in climates where it is not subject to the bursting of the bark, standards with four or five feet of clean trunk are preferable.

For door yards, where shade and ornament are taken into account, standards of the free growing sorts with erect habits and large foliage, are the most suitable.

For fruit gardens, and particularly those of moderate extent, and in localities where the bark of the trunk is liable to burst, the pyramid or conical trees, dwarf or low standards, with two or three feet of trunk, and the dwarfs, branching within a foot of the ground, are the most appropriate and profitable.

HEART CHERRIES.

Fruit heart-shaped with tender, sweet flesh. Tree of rapid growth, with large, soft, drooping leaves.

Black Tartarian.—Very large, purplish black; half tender; flavor mild and pleasant. Tree a remarkably vigorous, erect and beautiful grower and an immense bearer. Ripe last of June and beginning of July. One of the most popular varieties in all parts of the country.

Black Republican.—Supposed to be a cross between the Napoleon Bigarreau and Black Tartarian, having the solid flesh of the former and color of the latter. Very late and good.

Young's Large Black.—Very large; liver color; flesh very firm, fine flavor. Ripens early in July. An excellent market variety.

BIGARREAU CHERRIES.

These are chiefly distinguished from the preceding class by their firmer flesh. Their growth is vigorous, branches spreading and foliage luxuriant, soft and drooping.

Bing.—Originated by Seth Lewelling, from seed of Black Republican. Fruit large, dark brown or black, very fine, late; a good shipping variety.

Centennial.—A seedling of Napoleon Bigarreau; larger than its parent, and valuable on account of its shipping qualities; very sweet. June.

Lambert.—Fruit of largest size and of fine quality; color deep rich red; flesh firm and of fine flavor; a fine market variety. Ripens two weeks later than Napoleon Bigarreau.

Napoleon.—A magnificent cherry of the largest size; pale yellow, with a bright red cheek; flesh very firm, juicy and sweet. Tree a vigorous, erect grower and bears enormous crops; ripens late; valuable for canning.

Windsor.—Originated at Windsor, Canada, and introduced by Ellwanger & Berry. Fruit large, liver-colored, flesh firm, and of fine quality. Tree very hardy and prolific.

DUKE AND MORELLO CHERRIES.

These two classes of cherries are very distinct from the preceding. The trees are of smaller size and grow more slowly; the leaves are thicker and more erect and of a deeper green. The fruit is generally round, and in color varying from light red to dark brown.

The Dukes have stout, erect branches usually, and some of them, like Reine Hortense, quite sweet fruit; while the Morellos have slender, spreading branches and acid fruit, invariably. These two classes are peculiarly appropriate for dwarfs and pyramids, on the Mahaleb stock, and their hardiness renders them well worthy of attention in localities where the Heart and Bigarreau are too tender.

Early Richmond.—An early, red, acid cherry, very valuable for cooking early in the season. Ripens through June. Tree a free grower, hardy and very productive.

- English Morello.**—Large, dark red, nearly black; tender, juicy, acid, rich. Tree dwarf and slender; makes a fine bush on the Mahaleb. If trained on a north wall it may be in use all the month of August. Valuable.
- Large Montmorency.**—Large, red, productive, ten days later than Early Richmond. Last June.
- Late Duke.**—Large; light red; late and excellent. Tree robust and makes a nice dwarf or pyramid. End of July. Valuable.
- May Duke.**—An old, well-known, excellent variety; large; dark red; juicy, sub-acid, rich. Tree hardy, vigorous and fruitful; ripens a long time in succession; fine for dwarfs and pyramids. Middle of June.
- Olivet.**—A French variety; this sort takes a place not heretofore occupied among early cherries. Fruit large and globular, with a very shining, deep red color; flesh red, tender, and vinous, sweet; sub-acid flavor.
- Reine Hortense.**—A French cherry of great excellence; large, bright red; tender, juicy, nearly sweet and delicious. Tree vigorous and bears well; makes a beautiful pyramid.
- Royal Duke.**—Splendid large red, hardy, very showy; a splendid market variety. Ripens in July; ripens after the May Duke.
- 16 to 1.**—A cross between the Bigarreau and one of the Duke varieties. Large; red, rich, sub-acid; tree very hardy and has borne a crop every year since old enough to bear. It ripens 15th August, when cherries are scarce and high. The most profitable cherry for commercial planting ever introduced.
- Wragg.**—Very hardy, vigorous and productive; medium, dark purple, fine quality. August.

SELECT PLUMS.

To give the different types of plums, even a brief classification, the following condensed statement is taken from the *Cyclopedia of American Horticulture* (Bailey): "Prunes, characterized by sweet, firm flesh, capable of making a commercial dried product; any color, though blue purple are best known." (See "Prunes" on following pages.)

The plum in its geographical distribution covers a wide range of soils and climates, being thrifty along the coast regions, in the coast and interior valleys, and well up in the foothills. This adaptability is undoubtedly due largely to the various stocks on which the different sorts are

budded or grafted. Twenty to twenty-five feet apart is a standard distance to plant the trees. Being a sprawling grower, the tree should be pruned quite severely when young, the general vase form being much in favor. Like the cherry the tree is more or less subject to sun-scald, and hence should be headed low. Our trees have been budded and grafted on different roots, calculated to meet the varying conditions prevailing in different portions of the state. This fruit has not in recent years been planted so extensively as it deserves, which is due no doubt to some extent to the difficulty of marketing; but now with canneries established in every prominent fruit growing section in the state, and with the demand for shipment to eastern markets in the fresh and dried state, there is no reason why it should not be largely planted. "Black knot" and the insect "Curculio" combined have discouraged planting in the eastern states, and as a consequence our fruit finds a ready market there of late years. The Oriental varieties are coming more into favor. The trees grow rapidly, are heavy and regular bearers, and adapt themselves to a wide range of territory. The fruit is very showy and highly flavored and its shipping qualities are unexcelled.

Abundance (Botan).—Beautiful lemon yellow ground, nearly overspread with bright cherry and with a heavy bloom; large to very large, oblong, tapering to the point. Flesh orange yellow, melting, rich and highly perfumed; abundant and annual bearer. Tree a very vigorous, upright grower. This variety has created a decided sensation in every locality where it has fruited. Has been thoroughly tested, and is highly recommended. August.

Bavay's Green Gage (Reine Claude de Bavay).—One of the best foreign varieties. As large as the Washington, and of fine flavor; roundish oval; greenish, marked with red in the sun. Tree a free grower and remarkably productive. Middle to end of September. Hangs long on the tree.

Bradshaw.—A very large and fine early plum; dark violet red; juicy and good. Tree erect and vigorous; very productive; valuable for market.

Burbank.—Large and beautiful, clear cherry red, with a thin lilac bloom; flesh a deep yellow, very sweet, with a peculiar and very agreeable flavor. The tree is a vigorous grower with large and broad leaves; usually begins to bear the second year after transplanting. Ripens later than the Abundance; end of August.

Clyman.—Originated in Napa Valley; mottled reddish purple with beautiful blue; free-stone; flesh firm, dry and sweet; valuable for shipping on account of its extreme early ripening, being fully two weeks ahead of the Peach plum, and almost as large. Very prolific.

Columbia.—Very large; round; brownish-purple; very rich and sugary; parts freely from the stone.

Green Gage.—Small, but of the highest excellence. Tree a moderate grower. We have to top graft it to get good trees. September.

- Jefferson.**—A fine variety; yellow with a red cheek; flesh orange-colored; juicy and rich; parts from the stone. Tree a slow, poor grower, but productive. End of August.
- Lombard.**—Medium size; oval; violet red, flesh yellow, juicy and pleasant. Tree very vigorous, a great bearer, and peculiarly well adapted to light soils. September.
- Niagara.**—A vigorous, productive variety, valuable for both dessert and cooking; fruit large and handsome, remaining well on the tree; flesh juicy, rich and fine flavored. Middle to last of August.
- Peach Plum.**—Tree upright, vigorous; only a moderate bearer. Tree rather tender at the North; branches smooth. Fruit very large, shaped more like a peach than a plum; roundish; much flattened at both ends. Suture shallow, but strongly marked; apex much depressed; skin light brownish-red, sprinkled with obscure dark specks and covered with a pale bloom. Stalk short, rather stout, set in a shallow, narrow cavity; flesh pale yellow, a little coarse-grained, but juicy, and of pleasant, sprightly flavor when fully ripe; separates freely from the stone. Good. Last of July.
- Pond's Seedling, or Font Hill.**—A magnificent English plum; form of Yellow Egg; light red, changing to violet; flesh rather coarse. Tree a vigorous grower and most abundant bearer. One of the most attractive in cultivation. September.
- Prunus Simoni (Apricot Plum).**—Tree very thrifty and vigorous, bearing when quite young. Fruit hanging on the tree, shining like apples of gold, becoming a rich vermillion when fully ripe. Will ship any distance, and in point of quality will outrank any blue plum grown.
- Shropshire Damson.**—Originated in England. A plum of fine quality, which blossoms ten days later than the common Damson, and is therefore less liable to injury by late frosts. Flesh amber color, juicy, sprightly and free from astringency; also perfectly free from the attacks of curculio. In market it has commanded nearly double the price of the common Damson. Enormously productive. Ripens in October.
- Washington.**—A magnificent large plum; roundish green, usually marked with red; juicy, sweet and good. Tree robust and exceedingly productive. One of the very best. End of August.
- Wickson.**—Originated by Mr. Burbank, who says: "Among the many thousand plums I have fruited so far, this one stands pre-eminent in its rare combination of good qualities. A sturdy, upright grower, productive almost to fault. Fruit remarkably handsome, deep maroon red, covered with white bloom; stone small; flesh fine texture, firm, sugary and delicious. Excellent keeper and shipper; will keep two weeks after ripening."
- Yellow Egg.**—A very large and beautiful egg-shaped yellow plum; a little coarse, but excellent for cooking. Tree a free grower and very productive. End of August.

PRUNES.

Fellenberg (Large German Prune, Swiss Prune, Italian Prune).—Medium size, oval; dark purple, flesh juicy and delicious; parts from the stone; fine for drying. Tree a free grower and very productive.

French Prune (Petite d'Agen, Burgundy Prune).—The well-known variety so extensively planted for drying; medium size, egg-shaped, violet purple; juicy, very sweet, rich and sugary; very prolific bearer.

German Prune (Common Quetsche).—From this variety the dried prunes exported from Germany are made; the name, however, has been applied to numerous plums and prunes, which are all sold under it. The fruit of the true German Prune is long, oval and swollen on one side; skin purple, with a thick, blue bloom; flesh firm, green, sweet, with a peculiar pleasant flavor; separates readily from the stone. September.

Hungarian Prune (Grosse Prune d'Agen).—Very large; dark red; juicy and sweet. Its large size, bright color, productiveness and shipping qualities render it a profitable variety for home or distant markets.

Sugar Prune.—The following is an accurate description, taken from the report of B. M. LeLong, Secretary of the California State Board of Horticulture: "An extremely early Prune, ripens August first; cures superbly rich, with a yellow flesh, tender and rich in sugar juice; skin very tender, at first of a light purple, tinted with green, changing at maturity to dark purple, covered with a thick white bloom."

Silver Prune.—Originated with W. H. Pettyman, of Oregon. Mr. Pettyman says of it, "that it is a seedling from Coe's Golden Drop, which it most resembles, but is more productive, one tree of the Silver Prune producing more fruit than five of Coe's Golden Drop." Samples of dried fruit brought the highest price in the San Francisco market, and it is, in the judgment of fruit experts, because of its large size and superior flavor, entitled to rank first among prunes and drying plums. September.

Tragedy Prune.—A new prune originated by Mr. Runyon, near Courtland, in Sacramento County. It would seem to be a cross between the German Prune and Duane's Purple. Fruit medium size, nearly as large as the Duane Purple; looks much like it, only it is more elongated; skin dark purple; flesh yellowish green, very rich and sweet; frees readily from the pit. Its early ripening (in June) makes it very valuable as a shipping fruit.

SELECT PEACHES.

To secure healthy, vigorous and fruitful trees and fine fruit, the following points must be well attended to in peach culture: 1st. Keep the heads low—the trunks out not to exceed three feet in height. 2nd. At-

tend regularly every spring to pruning and shortening the shoots of the previous year's growth. This keeps the head round, full and well furnished with bearing wood. Cut weak shoots back about one-half, and strong ones one-third, but see that you have a sufficient supply of fruit buds. Sickly and superfluous shoots should be cut clean out.

It should always be borne in mind that the fruit is produced on wood of the last season's growth, and hence the necessity for keeping up a good supply of vigorous annual shoots all over the tree. The plum stock is advantageous in stiff clay, cold and damp soils.

Note.—In planting peaches it is of the highest importance to cut back the trees severely. The stem should be reduced about one-third and the side branches cut back to one bud. This lessens the demand upon the roots and enables the remaining buds to push more vigorously. Most failures in newly planted orchards may be ascribed to a non-observance of these directions.

Alexander.—Medium to large size; skin greenish-white, nearly covered with deep, rich red; flesh melting, juicy, sweet. Tree vigorous and productive; ripens two weeks before Hale's Early; one of the largest and best of the extra early varieties, and valuable for market as well as for home use.

Carman.—Large; resembles Elberta in shape; color creamy white or pale yellow with deep blush; skin very tough, flesh tender, fine flavor and quite juicy. Ripens with Early Rivers. One of the hardiest in bud; in shipping qualities and freedom from rot it is unsurpassed. Promises to stand at the head for a general, long distance, profitable market variety, in quality, ranking superior to anything ripening at same time. Named for the great horticultural editor, E. S. Carman, of the Rural New Yorker, specimens being sent him from Texas. He reported that it reached his office in "first class condition, and while fully ripe on arrival, it kept perfectly sound for 24 hours longer, when the fruit was eaten. In quality it was found to be first class, possessing a decided aroma. In this, as well as general appearance, it out-ranked any and everything in the line of peaches on the New York market." August.

Chairs Choice.—Large; yellow, liberally blushed with red; free. About the same season, and very similar in other respects to Crawford Late; it is, however, believed to be hardier in blossom, and is gaining in popularity as a profitable market variety.

Chinese Cling.—Large; white, shaded red, fine quality. A favorite variety in the South. August.

Crawford's Early.—A magnificent, large, yellow peach, of good quality. Tree exceedingly vigorous and prolific; its size, beauty and productiveness make it one of the most popular varieties. Beginning of September.

Crawford's Late.—A superb yellow peach; very large, productive and good; ripens here about the close of peach season. Last of September.

Early Charlotte.—An improved seedling from Crawford's Early, originated in Oregon in 1878, where it is attracting more attention among fruit growers than any other new peach ever introduced. It resembles Crawford's Early, but is much larger, handsomer, and of superior quality; the tree is a better grower, hardier and more productive. This free, yellow and remarkable new peach succeeds in Oregon, where all other sorts fail, on account of the extraordinary power of the tree to withstand the leaf-blight, the great enemy of the peach on the Pacific coast.

Elberta.—A Georgia cross between Crawford and Chinese Cling, very large, well colored; all things considered the finest yellow freestone in cultivation; no one can go amiss by planting it; fruit perfectly free from rot, and one of the most successful shipping varieties. September 15th.

Foster.—Originated near Boston. A large yellow peach resembling Crawford's Early, but of better quality. Ripe about the same time as Crawford's Early, or a little earlier.

Globe.—Skin lemon yellow, with a fine mottled red cheek; flesh yellow, deep red at the pit, juicy, sweet, rich and melting. Larger and better than Late Crawford, good specimens measuring 9½ inches in circumference. October.

Hale's Early.—Raised in Ohio; medium size; flesh white, first quality; ripens middle of August.

Heath.—The most delicious of all clingstones; fruit very large; skin downy, cream-colored white, with a faint blush of red in the sun; flesh greenish-white, very tender and exceedingly juicy, with the richest, highest and most luscious flavor.

Muir.—This very remarkable peach originated with G. M. Thissel, of Winters, California, who gives the following description: "I believe it to be a seedling from the Early Crawford, though the tree does not resemble the Crawford; the leaf is more like a willow. Is an excellent bearer, does not curl. The fruit is large to very large; is a very free stone; never saw one stick to the pit. It is a fine shipper, and one of the best canning peaches in the United States. It requires but little sugar, and many pronounce it sweet enough without any. As a drying peach it excels all others ever introduced into the market."

Orange Cling.—A most magnificent yellow cling of largest size; skin mostly covered with bright crimson; productive; ripens late.

Salway.—An English peach; large, roundish; skin creamy yellow; flesh deep yellow, juicy, melting, rich. A valuable late peach for market.

Seller's Orange Cling.—Very large; rich golden color; one of the very best clings; ripens with Late Crawford.

Triumph Peach.—One of the earliest peaches known. Fruit growers have, for many years, been looking for a good freestone market peach to take the place of the Alexander. The Triumph, originated by J. D. Husted, of Georgia, fully supplies their wants. It ripens with Alexander; blooms late; has large flowers; a sure and abundant bearer; and the tree makes a very strong growth. Several trees (two-year-old buds) produced this season over half a bushel of fruit each. The fruit is of large size, with a very small pit, and is indeed beautiful. Surface is yellow, nearly covered with red, and dark crimson in the sun. Flesh bright yellow, free when fully ripe, and of excellent flavor.—Originator.

Utah Orange (Large, Free).—Very large, showy, late peach; flesh yellow, with red blush; good shipper and keeps well; very hardy and productive and uniform in size; very valuable. September 15th to October 1st.

Whetland.—Large, roundish; skin golden yellow; shaded with crimson on the sunny side; flesh yellow, rather firm, juicy, sweet and of fine quality. Ripens between Early and Late Crawford. Tree vigorous and healthy.

Willett.—One of the very best late peaches.

SELECT APRICOTS.

The Apricot is one of the most beautiful and delicious fruits we possess, and its value is greatly enhanced by the season of its ripening—between cherries and peaches.

Blenheim, or Shipley.—Medium size; juicy and good; ripens ten or twelve days before the Moorpark. Very hardy.

Coe's Hemskirk.—Originated in California, where it has met with great favor. In size fully as large as any other variety, and of better quality. The green fruit sells readily at \$5 more per ton and the dried at from 1½c. to 2c. per pound higher than other varieties. It is a regular bearer, the original tree having produced nine successive annual crops without a single failure. We consider it a great acquisition.

Jones.—Medium; yellow, with red cheek; prolific; has always commanded highest prices in market on account of its earliness.

Moorpark.—One of the largest and finest apricots; yellow, with a red cheek; flesh orange, sweet, juicy and rich; parts from the stone; very productive. Ripens last of July.

Royal.—A standard variety; skin dull yellow with an orange cheek; flesh pale orange, firm and juicy, with a rich, vinous flavor. July.

SELECT NECTARINES.

The Nectarine requires the same culture and management as the Peach, from which it differs only in having smooth skin like the Plum. It is peculiarly liable to the attacks of the curculio. The same remedy must be applied as recommended for the Plum.

Boston.—Large, bright yellow, with a red cheek; flesh yellow, sweet and pleasant flavor; freestone. First of September.

New White.—Fruit rather large, nearly round; skin white, with a slight tinge of red when exposed; flesh white, tender, very juicy, with a rich vinous flavor. August.

QUINCES.

The Quince is well known and highly esteemed for cooking and preserving. It flourishes in any good garden soil; should be kept mellow and well enriched. Prune off all dead and surplus branches and thin out the fruit if bearing too freely.

Apple or Orange.—Large, roundish, with a short neck; of a bright, golden yellow color. Tree has rather slender shoots and oval leaves; very productive. This is the variety most extensively cultivated for the fruit. Ripe in October.

Champion.—A new variety. The tree bears early and abundantly, and is vigorous.

Meech.—A vigorous grower and immensely productive, frequently bearing fruit when but two years of age. The fruit is large, lively orange yellow, of great beauty and delightful fragrance; its cooking qualities are unsurpassed.

Rea.—A seedling of the Orange Quince; one-third larger; of the same form and color; fair, handsome, equally as good and productive.

NUT TREES.

ALMONDS.

IXL.—Introduced by Mr. Hatch, of Suisun, California, whose description we give: "Tree a sturdy, rather upright grower, with large leaves; nuts large, with, as a rule, single kernels; hulls easily, no machine being needed, nor any bleaching necessary; shell soft, but perfect. It bears heavily and, up to and including this season, very regularly."

King's Soft Shell.—Originated in San Jose, California; shell very thin and soft; regular and abundant bearer.

Paper Shell.—Medium size, shell very tender, easily broken between the finger and thumb; kernel large, white, sweet and relishing.

HARDY NATIVE GRAPES.

BLACK GRAPES.

Concord.—A large, handsome grape, ripening a week or two earlier than the Isabella; very hardy, productive and reliable; succeeds well over a great extent of country, and is one of the most popular market grapes.

Moore's Early.—Bunch medium; berry large, round, black with a heavy blue bloom; flesh pulpy and of medium quality; vine hardy and moderately prolific; ripens with the Hartford. Its large size and earliness render it desirable for an early crop.

Worden.—Said to be a seedling of the Concord. Bunch large, compact, handsome; berries large—larger than those of the Concord. It ripens a few days earlier and is superior to it in flavor. Destined to become very popular for the vineyard and garden.

RED AND REDISH-PURPLE GRAPES.

Agawam (Rogers' No. 15).—One of the best of the red varieties; bunch variable in size; sometimes large and handsome; flesh tender and juicy. Vine a good grower and bearer.

Brighton.—Resembles Catawba in color, size and form of bunch and berry. Flesh rich, sweet and of the best quality, equal, if not superior, to Delaware; ripens early, with the Delaware, Eumelan and Hartford. Vine productive and vigorous.

Delaware.—This fruit has fully maintained its reputation as one of the finest of our native grapes. The vine is comparatively slender, but grows freely and is perfectly hardy in this climate; ripens early. Bunch small and compact; berries small, light red, with a violet bloom; beautiful; sweet, sugary and vinous, with a musky aroma. It justly claims a place in every garden.

Salem (Rogers' No. 53).—Bunch large, compact; berry large, round; copery red; flesh tender, juicy; slight pulp; in quality one of the best. Ripens with Concord; vine healthy, vigorous and productive. One of the most popular of the Rogers'.

Vergennes.—Originated in Vermont. Bunch of medium size; somewhat loose, not uniform; berry large, round; skin thick, tough, red, over-spread with a thick bloom; flesh quite pulpy, flavor pleasant but not rich. Vine vigorous, hardy, healthy and productive. Ripens with Concord. Keeps well.

WHITE GRAPES.

Niagara.—Said to be a cross of Concord and Cassady. Bunch medium to large; compact, occasionally shouldered; berry large, roundish, uniform; skin thin, but tough, pale green at first, changing to pale yellow when fully ripe, with a thin, whitish bloom; flesh slightly pulpy, tender, sweet, not quite equal to the Concord. Before it is fully matured it has a very foxy odor, which disappears, to a great extent, later. Vine remarkably vigorous, healthy and productive; foliage thick and leathery. Ripens with the Concord. This variety is no doubt destined to supply the long-felt want among white grapes.

GRAPES—FOREIGN VARIETIES.**For Table, Raisins and Shipping.**

Black Hamburg.—A fine, tender grape, producing large, magnificent, compact bunches; berries black, very large and oblong. A great favorite everywhere.

Black Prince.—Bunches large; berries black, medium to large, round; flavor good.

California or Mission.—A well-known variety. A strong, sturdy grower, bearing large, black, medium-sized berries. Valuable for wine.

Flame-Colored Tokay.—Bunches very large and handsomely formed; berries large; skin thick, pale red, or flame-colored; flesh firm, sweet, with a sprightly and very good flavor. A splendid shipping grape.

Muscat of Alexandria.—Bunches large, long and loose; berries large, slightly oval, pale amber when ripe, covered with a thin white bloom; flesh firm, brittle; exceedingly sweet and rich; fine flavored. The variety most extensively planted for raisins.

Rose of Peru.—Bunches very large; berries large, oval; skin thick, brownish-black; flesh tender, juicy, rich and sprightly; a fine market variety.

Sultana.—Bunches compact, tapering; berries large, long and conical; skin thin, green, semi-transparent, becoming pale yellow as it ripens; pulp tender, seedless, and flavored much like the Sweetwater. October 1st.

White Sweetwater.—Bunches large and compact; berries medium size, round; skin thin, transparent, greenish yellow; pulp tender, juicy, sweet and richly flavored. One of the best early grapes.

FOREIGN WINE GRAPES.

Zinfandel.—Bunches large, compact; berries round, dark purple, covered with a heavy bloom; a valuable claret wine grape; succeeds well in most any climate.

BLACKBERRIES.

In the garden, plant in rows about five feet apart, and four feet apart in the rows. In the field, plant in rows six feet apart, and three feet apart in the rows. Treat the same as Raspberries. They may be planted in the fall or spring.

Erie (New).—Fruit large; of good quality; plant hardy, vigorous and productive. Very early. A promising new variety.

New Blackberry—Mersereau.—This early, mammoth, ironclad Blackberry is by far the most valuable variety that has appeared since the advent of the Wilson, over 30 years ago. It has never had a leaf affected with orange rust, blight or other disease. In hardiness, it is doubtless without an equal among blackberries, having endured a temperature of 20 degrees below zero without being injured in the least, even at the tips. Just how low a temperature it will withstand uninjured is not known. The berries are brilliant sparkling black throughout, and what adds great value to it, as a market berry, it remains black under all conditions and circumstances, never turning red when gathered in hot, muggy weather, after the manner of Snyder, Lawton, Erie and many other varieties. In quality, it is exceptionally sweet, rich, melting and luscious, being without core; the seedy character of Snyder and most other sorts is noticeably absent. As a shipper and keeper it is unsurpassed, remaining firm without "bleeding" in handling. The canes are of exceedingly strong, upright habit, attaining upon fairly good soil a height of 8 feet, if permitted to grow unchecked, and are so stout as to always remain erect; foliage large, deep green, abundant and entirely free from rust or blight. The yield is simply enormous, producing double the quantity of fruit per acre of the Snyder, Kittatinny or Taylor's Prolific, and affording heavy pickings from the first until the crop is all matured. Its season is early to midseason, ripening with the Snyder—in advance of Kittatinny, Lawton, Taylor's Prolific or Erie, but not so early as Early Harvest or the Wilson.

Rathbun.—A strong erect grower with strong stem branching freely; will root from tip of branches like a raspberry. Hardy, having endured 20 degrees below zero and produced a good crop. Forms a neat, compact bush 4 to 5 feet high, producing its immense fruit abundantly. Fruit is sweet and luscious, without hard core, of extra high flavor, jet black, small seeds; firm enough to ship and handle well. Very large size, resembling the Wilson and fully equal to that grand variety, with the addition of hardiness.

Snyder.—Extremely hardy, enormously productive, medium size; no hard, sour core; sweet and juicy. The leading variety where hardiness is the consideration. Ripens early.

Wilson, Jr.—Large, luscious and sweet as soon as colored. Plant hardy; ripens earlier and is said to be more productive than its parent.

Dewberries, or Running Blackberries.

Lucretia.—The plants are perfectly hardy and healthy, and remarkably productive. The flowers are very large and showy. The fruit, which ripens with the Mammoth Cluster Raspberry, is very large, soft, sweet and luscious throughout, without any hard center or core. As the Dewberry roots only from the tips, and does not sprout like blackberries, this will be much more desirable for garden culture, and the trailing habit of the plant will render winter protection easily accomplished in cold climates, where that precaution may be necessary. The Lucretia has proven to be the best variety of Dewberry, and is recognized as a very valuable acquisition to the list of small fruits; there are, however, many other varieties, most of which should be avoided, many being entirely worthless.

LOGAN BERRY.

Vine an exceedingly strong grower; trails upon the ground like a dewberry; fruit is often an inch and a quarter long, dark red, with the shape of a blackberry, the color of a raspberry, and a combination of the flavors or both; a great acquisition to the berries on the market; a splendid shipper.

RASPBERRIES.

To keep a raspberry bed in good productive condition, the old, weak and dead wood should be cut out every season, to give strength to the young shoots for the next year's bearing. In spring the weakest suckers should be removed, leaving five or six of the strongest in each hill. The ground should be spaded and a top dressing of manure given.

Protection.—To guard against injury by the winter, the canes may be tied to stakes and covered with straw, or they may be laid down in the autumn and covered with a few inches of earth, leaves, litter or branches of evergreens.

They can be planted in the fall or spring with success. Black Caps can not be planted in the fall.

AMERICAN SPECIES AND VARIETIES, BLACK CAP, ETC.

Cardinal.—New. The berries are large, dark red; firm, with an agreeable, pure, rich flavor, which is brought to its highest perfection when canned or cooked in pies. Season rather late. Berry adheres well. Its growth is of the strongest, canes growing 15 to 20 feet, and making from ten to fifteen canes from one hill or plant. Very few thorns. Foliage perfect. Wonderful producer; most hardy.

- Cuthbert** (Queen of the Market).—Medium to large, conical, deep rich crimson; very firm; a little dry, but sweet and good, nevertheless. Very hardy. Season medium to late; unquestionably one of the best varieties for market.
- Gregg**.—One of the most valuable varieties of the Black Cap family; fruit larger than the Mammoth Cluster, but not quite so good in quality; ripens some days later; hardy, a vigorous grower and great yielder.
- Kansas**.—Canes are of strong growth, very hardy and prolific, with tough, healthy, clean foliage. Its season, second early, ripening after Souhegan, but much earlier than Gregg. It is, beyond question, a variety of great value.
- Loudon**.—The best red raspberry yet introduced and the most productive; large size; bright color; very hardy; good shipper.
- Marlboro**.—The best early red raspberry for the North, ripening soon after the Hansell. Hardy and productive.
- Miller's Red**.—Very early. Berries bright red, large, and hold their size to the end of the season. Very firm, hence valuable to ship to distant market. In most markets a red raspberry to be really valuable must be a bright red and ripen very early; this Miller does, and hence is one of the very best and profitable to plant. Plants are now very low.

CURRENTS.

Currents can be successfully planted in the fall or spring. Being perfectly hardy, they do not suffer injury from the winter. Our stock of plants is very large and fine.

To destroy the current worm, dust the plants with white hellebore, when wet with dew. Care must be taken not to breathe the hellebore, as it causes violent sneezing.

Cherry.—The largest of all red currents; bunches short; plant vigorous and productive.

Fay's Prolific Current.—A cross between Cherry and Victoria. It has claimed for it equal size and beauty with the Cherry, with longer clusters, less acid and better flavor; it has a longer stem, which admits of rapid picking, and what is of the greatest importance, is very much more productive. We quote from the disseminator's description: "Color rich red. As compared with the Cherry Current, Fay's Prolific is equal in size, better in flavor, contains less acid and is five times as prolific, and from its peculiar stem, less expensive to pick."

Lee's Prolific.—Larger than Black Naples and very productive.

Pack Currant.—This valuable variety is an improvement upon the Fay's Prolific, which it resembles; more prolific, however; berry larger, better flavor. Very valuable market variety. Fruit does not fall off as in other varieties.

Pomona.—Medium size, clear bright red, excellent quality; hangs long time after ripe; holds up well on market; is one of the best for shipping; easily and cheaply picked. Holds an unparalleled record for actual acreage yield in ordinary field culture.

White Grape.—Very large, mild and excellent; the best table variety. This is very distinct from the White Dutch.

GOOSEBERRIES.

ENGLISH VARIETIES.

The Gooseberry wants annual manuring to sustain its vigor. The American varieties need close pruning every year. The English kinds require but little pruning. They may be planted in the fall or spring.

Industry.—Berries of largest size, excellent flavor, pleasant and rich; dark red color when fully ripe. Strong, upright grower; an immense cropper, less subject to mildew than most of the foreign varieties. The best known and most successful English sort.

Whitesmith.—Large, roundish, oval, yellowish-white, slightly downy; of first quality.

AMERICAN VARIETIES.

Columbus.—This is one of the most valuable introductions of recent years in small fruits, and it fully sustains the high opinion first formed of it. It was introduced by Elwanger & Barry. The fruit is of largest size, handsome, of a greenish-yellow color, and the quality is excellent. The plant is vigorous and productive, and does not mildew. It merits a place in every garden. The editor of the Rural New Yorker says: "It is the best variety yet introduced, and seems close to a perfect Gooseberry for our climate."

Downing.—Seedling of Houghton. Fruit large, two or three times the size of Houghton; whitish-green; flesh soft, juicy, good; plant vigorous and prolific; excellent for family use, and very profitable for market.

Josselyn (Red Jacket).—An American seedling of large size, smooth, prolific and hardy, of best quality. Has been well tested over a wide extent of territory by the side of all the leading varieties, and so far the freest from mildew, both in leaf and fruit, of them all. A wonderful cropper, with bright, clean, healthy foliage.

Poor Man's Gooseberry.—Berries about size of Downing; quality much better; red when fully ripe; prolific bearer; hardy, and absolutely free from mildew.

STRAWBERRIES.

Brandywine.—A fine, large, late, handsome, productive berry of excellent quality; regular conical form; dark, glossy red, extending to the center. Plant healthy and vigorous, abundant producer. An extra good sort for all purposes.

Jessie (Per.)—This variety is named by nearly all strawberry growers as one of the best in a collection of three or four varieties for home and market. Its season is early to medium. Jessie is a perfect strawberry for those having only a garden spot. Perfect flowering. On rich, loamy soil, it is very productive, and the fruit is very large.

Marshall.—One of the most remarkable of recent introductions. Largest size, surpassing in that respect any other sort; very dark, rich crimson; flesh fine grained, delicious flavor. Undoubtedly the finest grown. Blossom perfect, needs no fertilization; plants strongest and most vigorous ever seen; foliage heavy and thick enough to protect blossoms from late frosts and roots from winter's cold. Remarkably fine keeper and carrier, which recommends it to all growers. Three thousand quarts from one-fourth acre.

Wilson's Albany (Imp.)—Very large, color deep crimson; flesh crimson, firm and rich; a most prolific bearer and vigorous grower; stands first as a home market berry.

ASPARAGUS.

Columbian Mammoth White.—A distinct variety of strong, vigorous growth, producing very large, white shoots, that in favorable weather remain white until three or four inches high, or as long as fit for use. Market gardeners and those growing for canners will find this a very profitable variety.

Conover's Colossal.—A standard variety of large size, tender and excellent quality.

Palmetto.—A very early variety; even, regular size, of excellent quality.

RHUBARB—Or Pie Plant.

Linnaeus.—Large, early, tender and fine. The very best of all.

Queen.—Strong, vigorous grower, producing extra large stalks of finest quality, of a decided pink color. For canning or cooking in any way its quality is unsurpassed.



ORNAMENTAL DEPARTMENT.

Trees, Shrubs, Etc., for Ornament.

DECIDUOUS TREES.

Ash (*Fraxinus*).

EUROPEAN.—A large-growing, curious variety; irregular habit, spreading head and gray bark.

Box Elder.

An esteemed native tree. Fine form and peculiar foliage. Vigorous and hardy.

Chestnut (*American Chestnut*).

A magnificent forest tree, with deep, rich foliage, and well-known fruit; is exceedingly valuable as a timber tree.

Catalpa.

SPECIOSA.—A variety originating in the West; more upright and symmetrical in its growth than the common *Catalpa* (*Syringifolia*), and blossoms two or three weeks earlier. Very valuable for timber, fence posts, railroad ties, etc., possessing wonderful durability. A very ornamental and valuable tree.

Elm (*Ulmus*).

HUNTINGDON.—Of very erect habit and rapid, vigorous growth. Bark clear and smooth, one of the finest Elms for any purpose.

AMERICAN WHITE, OR WEEPING (*American*).—The noble, graceful, spreading and drooping tree of our own forests.

Horse Chestnut (Aesculus).

WHITE FLOWERING.—The well-known species; decidedly ornamental; makes a dense, symmetrical head; blooms in May, with large clusters of white flowers, mottled with red; makes the most popular shade tree; very healthy and hardy.

Maple (Acer).

NORWAY (Platanoides).—One of the most beautiful and desirable trees known; of large size, perfect outline; deep green foliage; compact in form and free from insects and disease.

WIER'S CUT-LEAVED.—A variety of the silver leaved. A rapid-growing tree with slender branches and very pretty indented leaves, silvery on the under side. Very graceful and attractive. One of the best lawn trees.

Mountain Ash (Sorbus).

EUROPEAN.—A very fine, hardy, ornamental tree, universally esteemed; profusely covered with large clusters of red and scarlet berries.

OAK-LEAVED.—A hardy tree of fine pyramidal habit. Height and breadth from 20 to 30 feet. Foliage simple and deeply lobed; bright green above, the downy beneath. One of the finest lawn trees.

Poplar (Populus).

BOLLEANA.—A very compact, upright grower, resembling the Lombardy Poplar, with leaves glossy green above, and silvery beneath; bark blue-green and smooth.

LOMBARDY.—Its tall, fastigate form, sometimes reaching 120 feet, makes it indispensable in landscape effects for breaking monotony of outline. Its growth is very rapid.

CAROLINA.—Pyramidal in form and robust in growth; leaves large, serrated, pale to deep green; one of the best.

Sycamore.

AMERICAN (Buttonwood).—Large, well-formed, fast growing tree, bearing a profusion of curiously pendant balls; excellent shade and street tree.

Thorn (Crataegus).

FLORA ALBO PLENO.—Double white.

DOUBLE RED.—Flowers bright red, double and very fine.

The above varieties of the Thorn are all very showy, highly ornamental, hardy, small trees and very fragrant flowers.

Walnut (Juglans).

BLACK.—A very ornamental tree of a spreading habit, with a round head; desirable for its fruit.

EUROPEAN.—A large tree. Is much cultivated in Europe, both for its fruit and for its timber.

DECIDUOUS WEEPING TREES.

The following class of Weeping trees are highly interesting and ornamental for choice grounds, lawns, cemeteries, etc., for their graceful appearance.

Ash (*Franxinus*).

EUROPEAN WEEPING.—One of the finest weeping trees for lawns and arbors.

Birch (*Betula*).

CUT-LEAVED WEEPING.—Beyond question one of the most popular of all weeping or pendulous trees. Its tall, slender, yet vigorous growth, graceful, drooping branches, silvery white bark, and delicately cut foliage, present a combination of attractive characteristics rarely met in a single tree.

Elm (*Ulmus*).

CAMPERDOWN.—Grafted 6 to 8 feet high forms one of the most picturesque drooping trees; it is of rank growth, often growing several feet in a single season. The leaves are large, dark green and glossy, and cover the trees with a luxuriant mass of verdure.

Mountain Ash (*Sorbus*).

WEEPING.—A beautiful variety of rapid growth and decidedly pendulous and trailing habit, one of the most desirable lawn trees.

Willow (*Salix*).

WEEPING (*Babylonica*).—The common Weeping Willow.

NEW AMERICAN WEEPING (*Purpurea pendula*).—An American species of dwarfish habit, with slender, drooping branches, and when grafted 6 to 7 feet high, forms a beautiful and graceful tree.

KILMARKNOCK.—A very graceful weeping tree, with brown branches, glossy leaves, and a symmetrical, umbrella-shaped head. Thriving in any soil or situation, it is one of the most desirable of the weeping trees.

DECIDUOUS SHRUBS.

Althea Frutex (*Hybiscus Syriacus*).

This is a very desirable class of shrubs, blooming in the autumn months, when few other shrubs are in blossom, and of the easiest cultivation, being very hardy.

LADY STANLEY (*Speciosa*).—Variegated red and white flowers; new. Very fine.

Flowering Crab.

BECHTEL'S.—Makes a magnificent sized tree; perfectly hardy, succeeds well in all soils not extremely wet. When in bloom appears to be covered with delicate pink, perfectly double small roses of delicious fragrance. The only sweet-scented Double Crab.

Almond (Prunus).

DWARF DOUBLE ROSE FLOWERING (*Japonica flore rubro pleno*).
—A beautiful shrub, with small double rosy blossoms.

DWARF DOUBLE WHITE FLOWERING (*Japonica flore albo pleno*).

Calycanthus (Sweet-Scented Shrub.)

FLORIDUS.—An interesting shrub, having a rare and peculiar fragrance of wood and flowers; its blooms are abundant and chocolate color.

Cornus, or Dogwood.

ELEGANTISSIMI.—A new and remarkable variety, with dark green foliage, margined with silver and red; wood a very dark red, retaining its color the entire year. A very beautiful and attractive shrub for lawns and group planting; a strong grower and perfectly hardy in all soils and climates.

RED BRANCHED (*Sanguinea*).—Very conspicuous and ornamental in winter from its red bark.

Deutzia.

CRENATE LEAVED (*Crenata*).—A fine shrub, nearly as strong as the *scabra*, and profuse flowering as the *gracilis*.

CRENATA FL. PL.—Similar in growth and habit to the above; flowers double, white, tinged with rose. The finest flowering shrub in cultivation.

ROUGH LEAVED.—One of the finest profuse white flowering shrubs.

SLENDER BRANCHED (*Gracilis*).—A very pretty shrub, with delicate white flowers; introduced from Japan. Fine for pot culture.

Fringe Tree.

PURPLE FRINGE.—A very much admired shrub for its singular fringe or hair-like flowers, covering the whole plant; known as Aaron's Beard.

WHITE FRINGE.—A small tree or shrub, with graceful, drooping clusters of fringe-like white flowers.

Hydrangea.

OTAKSA.—New, from Japan. Corymbs of flowers of very large size, deep rose color; foliage larger than other varieties of the species. Growth vigorous, very attractive.

PANICULATA GRANDIFLORA.—A fine, large shrub, bearing showy panicles of pink and white flowers in the greatest profusion. It is hardy, and is altogether a most admirable shrub for planting singly, or on the lawn in masses.

THOMAS HOGG.—Flowers pure white, often measuring fifteen inches in diameter. It is hardy everywhere, if a slight protection of leaves is given around the roots in winter.

Honeysuckles. Upright.

WHITE TARTARIAN.—Forms an upright bush with white flowers and fruit.

PINK FLOWERING.—A beautiful shrub, producing large, bright red flowers striped with white; in June; superseding the old Red.

Lilac (Syringa).

COMMON PURPLE.—Bluish purple flowers.

COMMON WHITE.—Cream-colored flowers.

Quince.

SCARLET JAPAN.—A very hardy shrub, with double, scarlet crimson flowers in great profusion early in spring; highly ornamental.

BLUSH JAPAN.—A very pretty variety, with delicate white flowers tinged with blush.

Spirea.

BILLARDI.—Blooms nearly all summer; rose colored; fine; showy.

CALLOSA ALBA.—A new white flowering Spirea, of dwarf habit; very fine, perfectly hardy; blooms in July and August; one of the most desirable.

GOLDEN LEAVED (*Opulifolia*).—An interesting variety, with golden yellow tinted foliage, and double white flowers in June. Very conspicuous. Strong grower and distinct.

LANCE LEAVED (*Lanceolata*, or *Reevesii*).—A charming shrub, with round heads of white flowers and narrow, pointed leaves. Blossoms in May.

Syringa, or Mock Orange (*Philadelphus*).

AUREA.—A new gold leaf shrub of delicate growth and beauty. It is not so fine a flower as the Mock Orange, but is sufficiently free to make it very valuable for clumps and hedges.

GARLAND (*Coronarius*).—A very fine shrub, with sweet scented flowers.

DOUBLE-FLOWERING.—Habit of growth stronger than the above, with semi-double white flowers.

LARGE FLOWERED SYRINGA.—A vigorous grower; very showy; large white flowers, slightly fragrant.

Snowball Tree.

A well-known, favorite shrub, of large size, with globular clusters of pure white flowers. The latter part of May.

Weigela.

ROSEA (Rose-colored Weigela).—A beautiful and hardy shrub, with double, rose-colored flowers, rich in profusion; introduced from China by Mr. Fortune; very hardy; blooms in June.

CANDIDA.—All white varieties heretofore known have been lacking some important characteristics. *Hortensis nivea*, the best and only really white sort, is a poor grower and difficult to propagate; other so-called white sorts have flesh-colored flowers, so that the introduction of the *Candida* supplies a long-felt want. It is of vigorous habit, an erect grower, becoming in time a large-sized shrub; flowers pure white and produced in great profusion in June, and the plants continue to bloom during the summer, even until autumn.

CLIMBING PLANTS.

Ampelopsis.

QUINQUEFOLIA (American Ivy, or Virginia Creeper).—Has beautiful digitate leaves that become rich crimson in autumn; a very rapid grower; like the Ivy, it throws out tendrils and roots at the points, by which it fastens itself to anything it touches; one of the finest vines for covering walls, verandas, or trunks of trees; affords shade quickly.

VEITCHII (Japan Creeper).—Leaves smaller than those of the American and overlap one another, forming a dense sheet of green. The plant is a little tender while young and requires protection the first winter; but once established, there is no further risk. It grows rapidly, and clings to wall or fence with the tenacity of ivy; the foliage is very handsome in summer and changes to crimson scarlet in autumn; for covering of walls, stumps of trees, rookeries, etc., no plant is so useful. For the ornamentation of brick and stone structures it can be specially recommended.

Honeysuckle (*Lonicera*).

HALL'S JAPAN (*Halleana*).—An evergreen variety, with pure white flowers, changing to yellow. Very fragrant, and blooms from June to November. Holds its leaves till January. The best of all.

MONTHLY FRAGRANT (*Belgica*).—Sweet-scented; very fine; continues to bloom all summer.

SCARLET TRUMPET MONTHLY (*Sempervirens*).—Strong; rapid grower; blooms all summer.

Ivy (*Hedera*).

ENGLISH.—An old variety; a hardy climbing plant.

Wistaria.

CHINESE PURPLE.—One of the most splendid, rapid growing plants; has long pendent clusters of purple flowers in spring and autumn.

CHINESE WHITE.—Similar to the above, except in color of the flowers, which in these are pure white.

CLEMATIS.

Summer and autumn bloomers, flowering on wood of the same season's growth.

Henryi.

A strong grower and a free bloomer; the flowers are creamy white.

Jackmanii.

This is perhaps the best known of the newer fine perpetual Clematis, and should have credit for much of the great popularity now attending this family of beautiful climbers. The plant is free in growth and an abundant and successful bloomer, producing flowers until frozen up. The flowers are large, of an intense violet purple, remarkable for its velvety richness. Though raised in 1862, since which time many new varieties have been raised and introduced, the Jackmanii has no superior and very few, if any, equals. July to October.

Miss Bateman.

One of the most charming of the spring flowering hybrids, having large white flowers, with chocolate red anthers, and somewhat fragrant. May and June.

Madam Edouard Andre.

A new French variety, entirely distinct and most novel. The nearest approach to a bright red yet produced. This Clematis was exhibited at the World's Fair, Chicago, in the French department, and attracted great attention, owing to the brilliancy of its flowers. The plant is a strong, vigorous grower, being a hybrid of the popular Jackmanii variety, which it resembles in freedom of bloom, vigorous growth, shape and size of flowers.

C. Paniculata.

A great novelty from Japan. It has proved to be one of the most desirable, useful and beautiful of hardy garden vines, being a luxuriant grower, profuse bloomer, and possessing fine foliage. It is particularly useful for covering verandas, pillars, fences, where a trellis or support can be provided for it to climb on. The flowers are of medium size, very pretty and fragrant, and produced in the greatest profusion in late summer. We can recommend this novelty in the strongest manner as one of the best vines to grow near the house; it makes a growth of from 25 to 30 feet in a single season, and should be cut back to the ground each spring.

Virginiana.

A very strong grower, having fragrant white flowers. Valuable for covering screens.

HEDGE PLANTS.

PRIVET.

The handsomest and most satisfactory of all hedge plants; can be pruned into any shape; perfectly hardy.

SELECT ROSES.

HYBRID PERPETUAL ROSES.

This class of Roses are the most desirable on account of their free blooming, and are particularly desirable for cold climates, because they are entirely hardy, though slight protection in winter in exposed situations is always desirable. This may be done by hilling up the earth, or better, by strewing leaves or straw lightly over the plants and securing them with evergreen branches or brush of any kind. Pruning should be done in March or early in April. Remove two-thirds of the past year's growth. All weak and decayed wood should be entirely cut out. Hybrid Perpetuals and Moss Roses may be planted in spring or fall.

Alfred Colomb.—Cherry red, passing to bright rich crimson; flowers extra large, double and full; extremely fragrant, and in every respect a superb sort; one of the very finest Hybrid Perpetual Roses.

American Beauty.—This is perhaps the grandest and most popular Rose now known. It is a genuine Hardy Ever-blooming Rose. It stands without any equal in immense size, rich color, perfect form and delightful fragrance. The color is a rich rosy crimson, shaded most beautifully.

Anna de Diesbach.—Brilliant crimson, sometimes shaded with bright maroon. A superb garden sort; fragrant; one of the hardiest and best.

Black Prince.—Very deep, blackish crimson; large size; full globular form; fragrant.

Coquette des Alps.—Large, full, finely formed flower; color, white, sometimes faintly tinged with pale blush; profuse bloomer.

Coquette des Blanchés.—Of fine form, pure white, with beautiful, shell-shaped petals. Especially suitable for cemetery planting.

Clio.—A fine, flesh-colored hybrid perpetual. The flowers are perfect in form, with fine, broad petals, and are beautiful at all stages, from the small bud to the full open flower; color delicate satin blush, with a light shading of rosy pink.

- Captain Christy.**—A delicate flesh color, rosy center; flowers large, double and sweetly scented.
- Gen. Jacqueminot.**—Brilliant crimson; not full, but large and extremely effective; very fragrant and of excellent, hardy habit; magnificent buds.
- Glorie Lyonnaise.**—White, tinted with yellow; large, full and of splendid shape. The nearest approach to a yellow Rose of this class.
- Gruss an Teplitz.**—One of the brightest colored Roses grown. When first opened it is dark rich crimson, quickly changing to bright scarlet shading to velvety fiery red. Blooms continually; flowers good sized and delightfully fragrant. Plant vigorous and upright grower, making fine pot plants. 15c.
- Hermosa.**—Everybody knows the beauty and constancy of this old favorite. Pink, very fragrant. A grand Rose for bedding or pot culture.
- Jules Margottin.**—Bright cherry red; large, well formed, fragrant flowers; very double and free; a splendid variety.
- La France.**—Delicate, silvery rose, changing to a silvery pink; very large, full of fine globular form; a most constant bloomer; very sweet and cannot be surpassed in delicacy of coloring.
- Marshal P. Wilder.**—Color cherry carmine, richly shaded with maroon; very fragrant and a free bloomer; a vigorous grower and hardy; continues to bloom long after other Hybrid Perpetuals are out of bloom; a superb rose and should be in every collection.
- Madame Plantier.**—Pure white, above medium size, full; produced in great abundance early in the season; one of the best white roses; hardy; suitable for cemetery planting or massing in groups.
- Paul Neyron.**—Deep rose color, good, tough foliage; by far the largest variety in cultivation; a free bloomer, very double and full; finely scented.
- The Queen.**—The finest white Rose ever offered. The buds are very large and of exquisite form; the full flower is very double and $3\frac{1}{2}$ to 4 inches across.
- Ulrich Bruner.**—Bright cerise red; flowers large and small, and of fine globular shape.

MOSS ROSES.

- Aetna.**—One of the finest; very large and full, delightfully fragrant, color bright crimson, shaded with purple; very mossy.
- Princess Adelaide.**—Fine, strong grower; hardy; flowers bright rosy pink, large, very double.
- Perpetual White Moss.**—One of the most mossy varieties, prettiest in bud; flowers of medium size, and borne in large clusters; fragrant; color pure white.

CLIMBING ROSES.

Climbing Roses are highly valued for training over arbors, trellises and verandas; also as screens for unsightly objects. They grow ten to twelve feet high, and are entirely hardy. They bloom the second year, and but once during the season, but are loaded with splendid roses.

Baltimore Belle.—Pale blush variegated carmine, rose and white, very double; flowers in beautiful clusters; the whole plant appearing a perfect mass of bloom; one of the very best Climbing Roses.

Crimson Rambler (Japanese).—This wonderful rose has been thoroughly tried in all situations and has proved to be all that could be claimed for a new introduction, and it has far surpassed all that was hoped for it. As a climbing or running rose it has no equal. The foliage is rich, dark green, the growth rapid and diverse, but its great beauty is when the plant is covered with a profusion of the brightest crimson partly double flowers which remain on a long time, thus prolonging the term of its magnificence.

Dorothy Perkins.—A splendid climbing rose; in foliage and habit of growth like Crimson Rambler; the flowers are very double, of good size and are borne in clusters of ten to twenty. The petals are very prettily rolled back and crinkled; the color is clear shell-pink and holds a long time without fading; very sweetly scented.

Gem of the Prairie.—A hybrid between the Queen of the Prairie and Madam Laffay. It is a strong and vigorous grower, similar in habit to the Queen, but the flowers are considerably darker in color, besides being quite fragrant. New and a great acquisition.

Prairie Queen.—Clear bright pink, sometimes with a white stripe; large, compact and globular; very double and full; blooms in clusters.

Russell's Cottage.—Dark velvety crimson; very double and full; a profuse bloomer.

Yellow Rambler (Aglaia).—A new hardy climbing rose of the class and habit of the famous Crimson Rambler; flowers medium size, cup shape, nearly full, sweet scented; blooms in large clusters which last three or four weeks; color golden yellow, a color heretofore unknown in a hardy climbing rose.

YELLOW ROSES.

(Hardy.)

Harrison's Yellow.—Golden yellow, medium size, semi-double; free bloomer.

Persian Yellow.—Bright yellow, small, nearly full.

DAHLIAS.

No garden is complete without a show of these brilliant and stately autumn flowers, and nothing gives greater return for so little money and care. We offer dry bulbs or tubers, but if stock of these becomes exhausted will send started plants.

HERBACEOUS PAEONIES.

It is surprising that so noble a flower, almost rivaling the rose in brilliancy of color and perfection of bloom, and the Rhododendron in stately growth, should be so neglected. Amateurs seem to have lost sight of the many improved varieties introduced within the last few years, and our finest gardens, perfect in other respects, are singularly deficient in specimens of the newer kinds. The first point in their favor is hardiness. It may be truly said that they are "hardy as an oak." In the severest climate the plants require no other protection than that they afford themselves. Then their vigorous habit and healthy growth and freedom from all diseases are important arguments in favor of their cultivation. The Paeonia may be planted either singly on the lawn or in borders; a large bed makes a grand show. It is really a flower for the million.

Duchese de Orleans.—Violet rose, center salmon.

Grandiflora Plena.—Outside delicate blush, center light straw color; very large.

Humei.—Purplish rose color; very full and double and of monstrous size; a late bloomer.

Odorata.—White, tinted with yellow; large and beautiful.

Palmata.—One of the handsomest of our herbaceous plants, and very hardy; beautiful palmate foliage, and a succession of showy flowers, deep crimson color.

Perfection.—Outside petals rosy lilac, inside salmon, marked with purple.

Rosa Superba.—Rose color.

Whittleji.—Large, white, with yellow center, in clusters.

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